co-ordinates of said points in a predetermined reference co-ordinate system;

the device including the improvement whereby:

each of said electrodes is connected by means of respective resistive components to at least three summing lines in such a manner that at least two of the said lines deliver analog signals whose amplitudes are substantially linear functions of the desired co-ordinates.

2. A device according to claim **1**, wherein the number of electrodes is selected in such a manner that the distance between successive pairs of adjacent electrodes is no greater than the acceptable width of a peripheral distortion margin on the resistive surface.

3. A device according to claim **2**, having at least 16 electrodes.

4. A device according to claim **1**, wherein the signal obtained on one of said summing lines varies as a linear function of one co-ordinate and the signal obtained on another of said summing lines varies as a linear function of the other co-ordinate.

5. A device according to claim **4**, having four summing lines, wherein the signals obtained on the summing lines are the same linear functions respectively of: a first co-ordinate, minus said first co-ordinate, the other co-ordinate, and minus said other co-ordinate.

6. A device according to claim **5**, including means for generating two analog signals whose amplitudes are proportional to the co-ordinates by performing a linear combination of the signals obtained on the summing lines.

7. A device according to claim **1**, wherein the sum of the conductances connecting any of the electrodes to the summing lines has a predetermined fixed value G such that $R_{\square}$ is greater than or of the same order as: (1/G); where $R_{\square}$ is the surface resistivity of the resistive surface and N is the number of electrodes.

8. A device according to claim **7**, wherein the signals obtained on the summing lines are amplified by means of amplifiers having respective input impedances Z such that Z is less than or of the same order as:

$$\frac{1}{N} \cdot \frac{1}{G}$$

9. A device according to claim **1**, wherein the resistive surface is disk-shaped.

10. A device according to claim **9**, wherein the conductance G(n, 1) of the resistive connection between an electrode having θ_n as its polar co-ordinate angle in said system of reference co-ordinates, and a summing line intended to provide a signal which is a linear function of the co-ordinate of a point localizing an event relative to an axis whose polar co-ordinate is θ_1 in said system of reference co-ordinates, has a value which is selected to be substantially equal to $K(1+\cos(\theta_n-\theta_1))$, where K is a predetermined constant.

11. A device according to claim **1**, wherein the resistive surface is rectangular in shape.

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